

RESULT 15

PCT-US01-22395A-219

; Sequence 219, Application PC/TUS0122395A

; GENERAL INFORMATION:

; APPLICANT: Bullard, James M.

; APPLICANT: Janjic, Nebojsa

; APPLICANT: McHenry, Charles S.

; APPLICANT: Replidyne, Inc.

; TITLE OF INVENTION: NOVEL DNA POLYMERASE III HOLOENZYME DELTA SUBUNIT

; TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND PROTEINS

; FILE REFERENCE: RDYN03PCT

; CURRENT APPLICATION NUMBER: PCT/US01/22395A

; CURRENT FILING DATE: 2001-07-16

; PRIOR APPLICATION NUMBER: 60/218,246

; PRIOR FILING DATE: 2000-07-14

; NUMBER OF SEQ ID NOS: 230

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 219

; LENGTH: 312

; TYPE: PRT

; ORGANISM: Thermotoga maritima

PCT-US01-22395A-219

Query Match 99.3%; Score 1562.5; DB 1; Length 312;

Best Local Similarity 99.7%; Pred. No. 4.8e-124;

Matches 311; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

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Qy      1 MNDLIRKYAKDQLETLKRIIEKSEGISILINGEDLSYPREVSLELPEYVEKFPPKASDVL 60
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Db      1 MNDLIRKYAKDQLETLKRIIEKSEGISILINGEDLSYPREVSLELPEYVEKFPPKASDVL 60

Qy     61 EIDPEGENIGIDDIRTIKDFLNYSPELYTRKYVIVHDCERMTQQAANAFLKALEEPPEYA 120
        |||
Db     61 EIDPEGENIGIDDIRTIKDFLNYSPELYTRKYVIVHDCERMTQQAANAFLKALEEPPEYA 120

Qy    121 VIVLNTRRWHYLLPTIKSRVFRVVVNPKEFRDLVKEKIGDLWEELPLLERDFKTALEAY 180
        |||
Db    121 VIVLNTRRWHYLLPTIKSRVFRVVVNPKEFRDLVKEKIGDLWEELPLLERDFKTALEAY 180

Qy    181 KLGAEKLSGLMESLKVLETEKLLKKVLSKGLEGYLACRELLERFSKVESKEFFALFDQVT 240
        |||
Db    181 KLGAEKLSGLMESLKVLETEKLLKKVLSKGLEGYLACRELLERFSKVESKEFFALFDQVT 240

Qy    241 NTITGKDAFLLIQRLTRIILHENTWESVED-KSVSFLDSILRVKIANLNNKLTLMNILAI 299
        |||
Db    241 NTITGKDAFLLIQRLTRIILHENTWESVEDQKSVSFLDSILRVKIANLNNKLTLMNILAI 300

Qy    300 HRERKRGVNAWS 311
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Db    301 HRERKRGVNAWS 312

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RESULT 15

US-09-906-179A-219

; Sequence 219, Application US/09906179A

; Publication No. US20030219737A1

; GENERAL INFORMATION:

; APPLICANT: Bullard, James M.

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; APPLICANT: Janjic, Nebojsa
; APPLICANT: McHenry, Charles S.
; TITLE OF INVENTION: NOVEL DNA POLYMERASE III HOLOENZYME DELTA SUBUNIT
; TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND PROTEINS
; FILE REFERENCE: RDYN03
; CURRENT APPLICATION NUMBER: US/09/906,179A
; CURRENT FILING DATE: 2001-07-16
; PRIOR APPLICATION NUMBER: 60/218,246
; PRIOR FILING DATE: 2000-07-14
; PRIOR APPLICATION NUMBER: 09/818,780
; PRIOR FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: 60/192,736
; PRIOR FILING DATE: 2000-03-28
; NUMBER OF SEQ ID NOS: 230
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 219
; LENGTH: 312
; TYPE: PRT
; ORGANISM: Thermotoga maritima
US-09-906-179A-219
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Query Match          99.3%;   Score 1562.5;   DB 3;   Length 312;
Best Local Similarity 99.7%;   Pred. No. 5.2e-122;
Matches 311;   Conservative 0;   Mismatches 0;   Indels 1;   Gaps 1;
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Db      1 MNDLIRKYAKDQLETLKRIIEKSEGISILINGEDLSYPREVSLELPEYVEKFPPKASDVL 60

Qy     61 EIDPEGENIGIDDIRTIKDFLNYSPELYTRKYVIVHDCERMTQQAANAFLKALEEPPEYA 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 EIDPEGENIGIDDIRTIKDFLNYSPELYTRKYVIVHDCERMTQQAANAFLKALEEPPEYA 120

Qy    121 VIVLNTRRWHYLLPTIKSRVFRVVVNVVPKEFRDLVKEKIGDLWEELPLLERDFKTALEAY 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 VIVLNTRRWHYLLPTIKSRVFRVVVNVVPKEFRDLVKEKIGDLWEELPLLERDFKTALEAY 180

Qy    181 KLGAEKLSGLMESLKVLETEKLLKKVLSKGLEGYLACRELLERFSKVESKEFFALFDQVT 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    181 KLGAEKLSGLMESLKVLETEKLLKKVLSKGLEGYLACRELLERFSKVESKEFFALFDQVT 240

Qy    241 NTITGKDAFLLIQRLTRIILHENTWESVED-KSVSFLDSILRVKIANLNNKLTLMNILAI 299
          |||||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Db    241 NTITGKDAFLLIQRLTRIILHENTWESVEDQKSVSFLDSILRVKIANLNNKLTLMNILAI 300

Qy    300 HRERKRGVNAWS 311
          ||||||||||||
Db    301 HRERKRGVNAWS 312
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RESULT 1
A72337
DNA polymerase III, gamma subunit-related protein - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Accession: A72337
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hickey,
E.K.; Peterson, J.D.; Nelson, W.C.; Ketchum, K.A.; McDonald, L.; Utterback, T.R.; Malek,
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J.A.; Linher, K.D.; Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson, D.; Heidelberg, J.; Sutton, G.G.; Fleischmann, R.D.; White, O.; Salzberg, S.L.; Smith, H.O.; Venter, J.C.; Fraser, C.M.  
Nature 399, 323-329, 1999

A;Title: Evidence for lateral gene transfer between Archaea and Bacteria from genome sequence of *Thermotoga maritima*.

A;Reference number: A72200; MUID:99287316; PMID:10360571

A;Accession: A72337

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-312

A;Cross-references: UNIPROT:Q9WZM9; UNIPARC:UPI000000D3995; GB:AE001746; GB:AE000512; NID:g4981285; PIDN:AAD35853.1; PID:g4981299; TIGR:TM0771

A;Experimental source: strain MSB8

C;Genetics:

A;Gene: TM0771

Query Match 99.3%; Score 1562.5; DB 2; Length 312;  
Best Local Similarity 99.7%; Pred. No. 3.8e-90;  
Matches 311; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

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Qy      1 MNDLIRKYAKDQLETLKRIIEKSEGISILINGEDLSYPREVSLELPEYVEKFPPKASDVL 60
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Db      1 MNDLIRKYAKDQLETLKRIIEKSEGISILINGEDLSYPREVSLELPEYVEKFPPKASDVL 60

Qy     61 EIDPEGENIGIDDIRTIKDFLNYSPELYTRKYVIVHDCERMTQQAANAFLKALEEPPEYA 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 EIDPEGENIGIDDIRTIKDFLNYSPELYTRKYVIVHDCERMTQQAANAFLKALEEPPEYA 120

Qy    121 VIVLNTRRWHYLLPTIKSRVFRVVVNPKEFRDLVKEKIGDLWEELPLLERDFKTALEAY 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 VIVLNTRRWHYLLPTIKSRVFRVVVNPKEFRDLVKEKIGDLWEELPLLERDFKTALEAY 180

Qy    181 KLGAEKLSGLMESLKVLETEKLLKKVLSKGLEGYLACRELLERFSKVESKEFFALFDQVT 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    181 KLGAEKLSGLMESLKVLETEKLLKKVLSKGLEGYLACRELLERFSKVESKEFFALFDQVT 240

Qy    241 NTITGKDAFLLIQRLTRIILHENTWESVED-KSVSFLDSILRVKIANLNNKLTLMNILAI 299
          ||||||||||||||||||||||||| |||||||||||||||||||||||||
Db    241 NTITGKDAFLLIQRLTRIILHENTWESVEDQKSVSFLDSILRVKIANLNNKLTLMNILAI 300

Qy    300 HRERKRGVNAWS 311
          |||||||||
Db    301 HRERKRGVNAWS 312
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#### RESULT 15

US-09-906-179A-220

; Sequence 220, Application US/09906179A

; Publication No. US20030219737A1

; GENERAL INFORMATION:

; APPLICANT: Bullard, James M.

; APPLICANT: Janjic, Nebojsa

; APPLICANT: McHenry, Charles S.

; TITLE OF INVENTION: NOVEL DNA POLYMERASE III HOLOENZYME DELTA SUBUNIT

; TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND PROTEINS

; FILE REFERENCE: RDYN03

; CURRENT APPLICATION NUMBER: US/09/906,179A  
; CURRENT FILING DATE: 2001-07-16  
; PRIOR APPLICATION NUMBER: 60/218,246  
; PRIOR FILING DATE: 2000-07-14  
; PRIOR APPLICATION NUMBER: 09/818,780  
; PRIOR FILING DATE: 2001-03-28  
; PRIOR APPLICATION NUMBER: 60/192,736  
; PRIOR FILING DATE: 2000-03-28  
; NUMBER OF SEQ ID NOS: 230  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 220  
; LENGTH: 1980  
; TYPE: DNA  
; ORGANISM: Thermotoga maritima  
US-09-906-179A-220

Query Match 100.0%; Score 936; DB 3; Length 1980;  
Best Local Similarity 100.0%; Pred. No. 6.4e-283;  
Matches 936; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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|----|-----|---|-----|
| Qy | 1   | ATGAACGATTTGATCAGAAAGTACGCTAAAGATCAACTGGAACTTTGAAAAGGATCATA   | 60  |
|    |     |   |     |
| Db | 288 | ATGAACGATTTGATCAGAAAGTACGCTAAAGATCAACTGGAACTTTGAAAAGGATCATA   | 347 |
| Qy | 61  | GAAAAGTCTGAAGGAATATCCATCCTCATAAATGGAGAAGATCTCTCGTATCCGAGAGAA  | 120 |
|    |     |   |     |
| Db | 348 | GAAAAGTCTGAAGGAATATCCATCCTCATAAATGGAGAAGATCTCTCGTATCCGAGAGAA  | 407 |
| Qy | 121 | GTATCCCTTGAAC TTCCCGAGTACGTGGAGAAATTTCCCCGAAGGCCTCGGATGTTCTG  | 180 |
|    |     |   |     |
| Db | 408 | GTATCCCTTGAAC TTCCCGAGTACGTGGAGAAATTTCCCCGAAGGCCTCGGATGTTCTG  | 467 |
| Qy | 181 | GAGATAGATCCCGAGGGGGGAGAACATAGGCATAGACGACATCAGAACGATAAAGGACTTC | 240 |
|    |     |   |     |
| Db | 468 | GAGATAGATCCCGAGGGGGGAGAACATAGGCATAGACGACATCAGAACGATAAAGGACTTC | 527 |
| Qy | 241 | CTGAAC TACAGCCCCGAGCTCTACACGAGAAAGTACGTGATAGTCCACGACTGTGAAAGA | 300 |
|    |     |   |     |
| Db | 528 | CTGAAC TACAGCCCCGAGCTCTACACGAGAAAGTACGTGATAGTCCACGACTGTGAAAGA | 587 |
| Qy | 301 | ATGACCCAGCAGGCGGCGAACGCGTTTCTGAAGGCCCTTGAAGAACCACCAGAATACGCT  | 360 |
|    |     |   |     |
| Db | 588 | ATGACCCAGCAGGCGGCGAACGCGTTTCTGAAGGCCCTTGAAGAACCACCAGAATACGCT  | 647 |
| Qy | 361 | GTGATCGTTCTGAACACTCGCCGCTGGCATTATCTACTGCCGACGATAAAGAGCCGAGTG  | 420 |
|    |     |   |     |
| Db | 648 | GTGATCGTTCTGAACACTCGCCGCTGGCATTATCTACTGCCGACGATAAAGAGCCGAGTG  | 707 |
| Qy | 421 | TTCAGAGTGGTTGTGAACGTTCCAAAGGAGTTCAGAGATCTCGTGAAAGAGAAAATAGGA  | 480 |
|    |     |   |     |
| Db | 708 | TTCAGAGTGGTTGTGAACGTTCCAAAGGAGTTCAGAGATCTCGTGAAAGAGAAAATAGGA  | 767 |
| Qy | 481 | GATCTCTGGGAGGAACTTCCACTTCTTGAGAGAGACTTCAAAACGGCTCTCGAAGCCTAC  | 540 |
|    |     |   |     |
| Db | 768 | GATCTCTGGGAGGAACTTCCACTTCTTGAGAGAGACTTCAAAACGGCTCTCGAAGCCTAC  | 827 |
| Qy | 541 | AAACTTGGTGCGGAAAACTTTCTGGATTGATGGAAAGTCTCAAAGTTTTGGAGACGGAA   | 600 |

|    |      |  |      |
|----|------|--|------|
|    |      |  |      |
| Db | 828  | AAACTTGGTGC  | 887  |
| Qy | 601  | AAACTCTTGAAAAAGGTCCTTTCAAAGGCCTCGAAGGTTATCTCGCATGTAGGGAGCTC  | 660  |
| Db | 888  | AAACTCTTGAAAAAGGTCCTTTCAAAGGCCTCGAAGGTTATCTCGCATGTAGGGAGCTC  | 947  |
| Qy | 661  | CTGGAGAGATTTTCAAAGGTGGAATCGAAGGAATTCTTTGCGCTTTTGTATCAGGTGACT | 720  |
| Db | 948  | CTGGAGAGATTTTCAAAGGTGGAATCGAAGGAATTCTTTGCGCTTTTGTATCAGGTGACT | 1007 |
| Qy | 721  | AACACGATAACAGGAAAAGACGCGTTTCTTTTGATCCAGAGACTGACAAGAATCATTCTC | 780  |
| Db | 1008 | AACACGATAACAGGAAAAGACGCGTTTCTTTTGATCCAGAGACTGACAAGAATCATTCTC | 1067 |
| Qy | 781  | CACGAAAACACATGGGAAAGCGTTGAAGATCAAAAAAGCGTGTCTTTCCTCGATTCAATT | 840  |
| Db | 1068 | CACGAAAACACATGGGAAAGCGTTGAAGATCAAAAAAGCGTGTCTTTCCTCGATTCAATT | 1127 |
| Qy | 841  | CTCAGGGTGAAGATAGCGAATCTGAACAACAACTCACTCTGATGAACATCCTCGCGATA  | 900  |
| Db | 1128 | CTCAGGGTGAAGATAGCGAATCTGAACAACAACTCACTCTGATGAACATCCTCGCGATA  | 1187 |
| Qy | 901  | CACAGAGAGAGAAAGAGAGGTGTCAACGCTTGGAGC                         | 936  |
| Db | 1188 | CACAGAGAGAGAAAGAGAGGTGTCAACGCTTGGAGC                         | 1223 |